

## ABSTRACT OF THE DISCLOSURE

A voltage controlled oscillator (VCO), suitable for use in a frequency shift key-  
ing (FSK) system. The VCO device comprises a switching varactor unit, having a first  
terminal and a second terminal, wherein the switching varactor unit produces a capaci-  
tance, according to a frequency-selection voltage. A VCO core has a first output termi-  
5 nal, a second output terminal complementary to the first output terminal, and an input  
terminal. Wherein, the switching varactor unit is coupled in parallel with the VCO core  
at the first output terminal and the second output terminal to produce a capacitance ef-  
fect with respect to the capacitance, so as to adjust a frequency constant  $\sqrt{LC}$  of the  
10 VCO core.